COMMANDING OFFICER
MARINE SAFETY OFFICE
155 COLUMBIA DR
TAMPA, FL 33606

APPENDIX 3 TO ANNEX C TO MSO TAMPA HEAVY WEATHER CONTINGENCY PLAN
TAMPA BAY PORT HEAVY WEATHER PLAN (EXTERNAL)

REFERENCES: (a) CCGDSEVEN SOP
(b) CCGDSEVEN OPLAN 9770-95

A. Purpose. This plan provides guidance to members of the port community rega rding policy for operating in Tampa Bay before, during and after heavy weather events.

B. Port Description.

1. General.

a. Tampa Bay is located at the approximate midpoint on the west coast of the Florida Peninsula. Tampa Bay is approximately 7 to 8 miles wide and some 20 miles long and provides access to the Port of Tampa, Port of St. Petersburg, Port Tampa and Port Manatee. The City and Port of Tampa lie at the northern end of Hillsborough Bay, an arm of Tampa Bay, about 41 miles from the entrance.

b. The lands surrounding Tampa Bay are generally low in elevation; much of the low-lying real estate has been developed for home-sites or industrial purposes. Except for a section of southern Pinellas Peninsula, few elevations reach 30 feet within 3 miles of the Bay.

c. The main ship channel passes between Egmont Key and Mullet Key into a dredged cut that enters Tampa Bay. Water depths in Tampa Bay vary from one location to another, but are generally shallow with depths less than 15 feet outside the dredged channel.

d. One bridge, the Sunshine Skyway, crosses the channel at the entrance to Tampa Bay, approximately 6 miles east of Egmont Key. It is a land-filled causeway for most of its length but becomes a 1000 foot horizontal clearance span over the main ship channel with vertical clearances of 181 feet at the center and 175 feet at the fenders (at mean high water).

e. The remnants of the old Sunshine Skyway Bridge are located approximately 1000-feet west of the new span. While the bridge no longer crosses the main ship channel, the pier structures do extend into Tampa Bay.

f. Three low-elevation causeway and bridge combinations cross Old Tampa Bay between Tampa and Pinellas Peninsula but do not cross the ship channel.

2. Mooring Information.

a. Port of Tampa. Includes the facilities at Tampa proper, Port Tampa, Port Sutton and East Tampa (Alafia River). Of the 81 piers, wharves, and docks at the Port of Tampa, 47 are owned by the Tampa Port Authority. Of these, three have alongside depths of less then 20 ft and are not considered to be deep draft facilities. The remaining 16 are located around the periphery of Hookers Point and on Ybor Channel.

b. Port Manatee. Owned and operated by the Manatee County Port Authority and located on the Southeast side of Tampa Bay, approximately 11 miles east of Egmont Key. The port is accessible by a federally dredged and maintained channel that intersects the main ship channel approximately 4 miles above the Sunshine Skyway Bridge. The port has a 41-ft deep main basin 778-ft wide by 1500 ft long with five berths, each capable of accommodating a 750 ft ship.

(1) Port Manatee has significantly lower storm surge heights than those calculated for the main Port of Tampa facilities in upper Hillsborough Bay, and the facilities in Port Manatee are of new construction. Contact Manatee Port Authority for berth requests.

c. St. Petersburg. The Port of St. Petersburg is located on the south side of 8th Avenue S. E. in St. Petersburg, Florida, 31 Miles from the Gulf of Mexico and 4.5 miles from the main ship channel in Tampa Bay. Depth in the entrance channel and turning basin is currently listed at 22'. The wharf is 1,200' in length. The facilities consist of a 13,000-sq. ft. passenger terminal, 6,000 feet of which are enclosed and 7,000 feet of open, roofed baggage area. There is a small parking area adjacent to the Terminal consisting of 35 spaces. There are two warehouses, 10,000-sq. ft., respectively. Located between the two warehouses is an open yard storage area of approximately 21,000 sq. ft.

d. Numerous marinas exist throughout the entire region and the recreational boating population increases with winter resort traffic.

e. Several commercial facilities are located throughout the bay for serving coastal, inshore, and fishing vessels.

3. Flood/Storm Surge Information.

a. Historical data indicates that a tidal surge of 5 feet or more is not uncommon in this area.

b. NOAA's Sea, Lakes and Overland Surges from Hurricanes (SLOSH) model indicates that the surge heights for locations in the upper reaches of Tampa Bay, especially in the main Port area in Hillsborough Bay, are significantly higher than near the mouth of the bay. The highest water levels would result from Category 5 hurricanes moving inland just north of the main portion of Tampa Bay, across the Pinellas Peninsula into Old Tampa Bay.

(1) Water levels resulting from what is essentially a "worst case" storm would inundate all of the Interbay Peninsula, Davis Island, Harbour Island, Hookers Point, and the land area around greater Tampa Bay to a distance as much as 4 miles inland in some areas. The projected storm surge heights are over 30 feet in some areas.

(2) Even a westward moving hurricane could cause water rises of over 10 feet in Hillsborough Bay.

c. Another consideration is a drop in water levels. This occurred in the bay when Hurricane Betsy passed well south of Tampa on a westward course in 1965. Winds running 20-30 knots offshore were experienced for about 72 hours, a duration factor that contributed heavily to the water level drop. Another instance occurred in the Hillsborough River where a 9-foot drop was observed in 1910.

4. Heavy Weather Anchorages.

a. Tampa Bay offers little shelter from heavy weather. Low terrain affords limited protection from strong winds and the configuration of the Bay makes it most vulnerable to winds from the south or southwest.

b. Anchorages north and south of the Tampa Safety Fairway leading to Egmont Channel can be used to ride out any gale short of a hurricane. All other anchorages should be considered fair weather anchorages only and should not be used for riding out a storm.

c. No hurricane anchorages exist inside the Bay or in the COTP Tampa Zone.

5. Wave Action on Tampa Bay.

a. Except for a small 1+ - mile opening between Egmont Key and Passage Key, Tampa Bay is well protected from ocean wave activity. Large ocean waves could move through this narrow passage, but most of the wave energy would be lost due to shallow depth and angular spreading.

b. High winds would create a wind wave hazard to marine facilities around the bay. Maximum wind wave action would result from strong NE or SW winds. The U.S. Army Corps of Engineers has estimated that 50 knot winds would generate a 5 ft wind wave, 75 knot winds would generate a 6.5 ft wind wave, and 85 knot winds would generate a 7 ft wind wave. With a tidal surge of 10 ft, 85 knot winds would increase the wind wave height to over 9 ft.

c. Old Port Tampa is located on the west side of the Interbay Peninsula. It is open to the west and has reduced water depths. The 85 knot wind is estimated to produce only a 4 ft wind wave.

d. The Port of St. Petersburg is exposed to the east and southeast winds and waves. The 85 knot wind would create a 5 ft wind wave. With a 10 foot tidal surge, this would increase the wind wave height to 7 ft.

e. Port Manatee is exposed to the west but is protected from significant wave action by a spoil bank west of the turning basin and shallow depths outside of the dredged channel. Given a 10 ft tidal surge, 85 knot winds would generate a 5 ft wind wave.

f. Facilities on Hillsborough Bay are most susceptible to waves generated by south and southwesterly winds. The 85 knot wind would be expected to generate a 6 ft wind wave.

This would increase to 7 ft given a storm surge of 10 ft. Davis Island, Harbour Island, Hookers Point, and Pendola Point protect most of the deep draft facilities. Port Sutton is exposed to the west but a limited fetch would preclude significant wave action. East Tampa (Alafia River) is exposed to the west and the 85 knot winds would generate a 5 ft wind wave.

B. Public Outreach.

1. Public Notice. As heavy weather approaches the Tampa Bay area, the Captain of the Port (COTP) will set hurricane conditions for the Captain of the Port, Tampa Area of Responsibility (AOR). Upon setting of each condition, the COTP will issue a Broadcast Notice to Mariners (BNTM) advising the port community of preparations to begin closures of bridges or navigational channels and place restrictions on port activities. The BNTM will include such information as criteria for vessels requesting to remain in port, drawbridge closures and expected landfall of gale force winds. Also, upon setting of Condition Two, the COTP may establish various safety zones throughout the Port. MSO personnel will begin surveys and inspections of the port including waterfront facilities, vessels, marinas, etc. to ensure adequate preparations are being made and that the marine industry is aware of COTP requirements. (See Annex K for sample BNTM messages).

2. Vessel Advisories.

a. General. The ports of Tampa, Manatee and St. Petersburg are NOT considered safe havens during hurricane conditions for any vessel. There are no designated hurricane anchorages in Tampa Bay or anywhere else in the COTP Tampa Zone. All vessels will be prohibited from anchoring in open anchorages to ride out a hurricane.

b. Deep-Draft Vessels.

(1) Operators of deep draft vessels should NOT consider the following areas safe for mooring during hurricanes unless approved by the Tampa Port Authority or Manatee Port Authority:

(a) Garrison Terminal (West) (Berth 271, 272, & 273).
(b) Berth 200 East Bay.
(c) Berth 206 East Bay.
(d) Richard E. Knight Pier (Berth 223, 224, 226, 227, & 230).
(e) Harbour Island.
(f) Old Port Tampa.
(g) South Port (Berth 250, 251, 252, & 253).
(h) Metro Port (Berth 263, 264 ,265, 266, 267, & 268).
(i) Port Sutton (1, 2, 3, 4, 21, 22, 23, 24, 24B, and 31).
(j) Port Manatee (Berth 5, 6, 7, 8, 9, 10, 11).
(k) All Petroleum Berths.
(l) Port of St Petersburg (Cruise Ship terminal & east Wharf)

(2) The absence of sheltered berths or anchorages makes evasion at sea the safest course of action for all oceangoing commercial vessels and Coast Guard regulated barges over 500 gross tons. These vessels may be asked to leave the port as soon as it can

be established that a particular storm poses a threat to Tampa Bay. Some factors that may affect this decision are:

(a) The forward speed of the storm.

(b) The radius of hazardous winds and seas that can impact on a vessels' capability to reach open water and then to maneuver to evade.

(c) The time necessary to make preparations to get underway.

(d) The time necessary to reach open water.

(e) During marginal threat periods, such as a pre-Condition Three situation, oceangoing commercial vessels and Coast Guard regulated barges over 500 gross tons could leave the pier for anchorage to await further developments in storm intensity and/or direction. This offers the advantage of decreasing the time required to reach open sea should it become necessary.

(3) All ships in refit at local ship repair facilities should maintain a steaming readiness condition appropriate with the hurricane condition set.

(4) Any ship unable to get underway for evasion should consider the safety of its present berth and, if necessary, be towed to an alternate berth upon setting of Condition Two or earlier.

(5) Most waterfront facilities have already determined that they will not permit vessels to berth at their docks during a hurricane. However, the COTP will consult with the Port Authorities, waterfront facilities and local shipyards at the onset of Condition Four to determine if emergency berth assignments will be available.

c. Recreation Vessels.

(1) Local marinas and yacht clubs should have specific heavy weather plans, which address the issue of safe havens. Often this plan requires the active participation of boat owners before the onset of hurricane seasons. More successful plans have included:

(a) Detailed research and documentation such as diagrams of the harbor, yacht club grounds, docking arrangements, anchoring techniques, and evacuation routes of all trailerable boats.

(b) An arrangement to move non-trailerable boats ashore if possible.

(c) Plans to latch down vessels on shore and arrangements with marinas farther inland to take boats.

(d) Plans to remove debris and missile hazards.

(e) Setting up "boat buddies" (someone authorized to take care of the boat if the owner is away).

(f) Arrangements with local weather services for detailed advance information and set "triggers" in the weather conditions, which will dictate certain action.

(g) Specific individuals listed to take action on each item, practice evacuation, etc.

(2) Some protection may be afforded by moving vessels up the Hillsborough, Alafia, Little Manatee, and Caloosahatchee Rivers. The small craft operator should select several potential havens before the start of hurricane season. They should proceed to these shelters well in advance, of an approaching storm, in order to avoid the inevitable vessel traffic congestion and drawbridge closures.

(3) Small craft owners may wish to move their boats into a small winding stream, preferably a stream lined with trees.

(a) Vessels should be moored with lines fastened to lower branches and chafing gear deployed. The knees of the trees will act as bumpers and the lower branches will allow some "give" to ease shocks from gusting winds. Pine trees are not recommended since they have a shallow root system.

(b) Allowance must be given regarding trespassing on private property. It would be prudent for small craft owners to have previously obtained written permission to tie-up and transit the property of shore side landowners. In addition, agreements should be reached regarding salvage and pollution issues arising in the wake of the storm's damage.

(4) Seeking shelter at berths or marinas around the periphery of Tampa Bay is not recommended due to the potential for storm surge.

(5) Shallow draft vessels should, if feasible, be removed from the water and firmly secured ashore above the predicted high water mark, preferably at an elevation of at least 20 feet (30 feet if the storm is posing a worst case threat).

(6) If boats are unable to be raised, they should be storm breasted at the docks with all available fenders and allowances made for tidal changes.

(7) Avoid any conflicts with evacuation routes; drawbridges will probably be secured in the down position when wind speeds approach 39 mph, and quite possibly sooner, to facilitate the evacuation of coastal areas and barrier islands.

(8) The following table gives river channel and bridge data for the Hillsborough, Alafia and Little Manatee Rivers.

RIVER	CONTROLLING DEPTH (ft.)	BRIDGE CLEARANCE (ft.)	ABOVE BAY (mi.)
HILLSBOROUGH	4.5 *1	40	0.1
		35	3.2
		10 *2	4.3
		7 *2	6.0
ALAFIA	3.0 *4	28	1.0
		6 *3	1.0
LITTLE MANATEE	3.0	12	2.3 *5
CALOOSAHATCHEE	9.0	10	15.0

NOTE

*1 Maintained to 2.5 miles above mouth. Depth above 2.5 mile point are not specified.
*2 Draw bridge.
*3 Swing Bridge.
*4 With local knowledge at high water.
*5 Height of adjacent railroad span not specified.

d. Barges.

(1) Evasion to sea is not a realistic option and given the multitude of barges in the area, the following guidelines are provided:

(a) Evacuation up and into the local rivers is not encouraged because of:

1. High density of small boat population;

2. Potential effects/conflicts with local population evacuation routes which cross these rivers;

3. Probability that bridges will be closed to facilitate evacuation of the local populace; and

4. The difficulties with access and egress from these areas.

(b) Consider alternate mooring sites, hurricane holes and emergency berths. Make arrangements for:

1. Berth before the onset of any heavy weather/hurricane warning;

2. Tug support for before and after the heavy weather passes;

3. Potential salvage issues;

4. Potential pollution clean- up issues.

(c) Arrangements for potential heavy weather moorings should be completed before the season begins. Some considerations are:

1. Obtain prior clearance/permission from the owner/facility before the season;

2. Consider hurricane holes in Port Sutton, Rattlesnake and Big Bend due to less tidal flow than rivers, containment of any pollution or salvage issues, etc.;

3. Avoid Ybor Channel because the focus of hurricane storm surge is highest in that area;

4. Port Manatee has lower storm surge heights than those calculated for the main Port of Tampa facility in upper Hillsborough Bay;

5. See recent surveys of the different berths within the port for condition of the:

   a. Pier face;
   b. Bollards;
   c. Fendering system;
   d. Bottom (i.e. bottom contour, mud or scrap metal).

(d) Techniques/guidelines for mooring .

1. Deck Barges. (working, non-cargo barges).

   a. Secure at pier face;
   b. Outboard anchors out at short stay;
   c. Secure by spudding down, if possible or nesting between two secured vessels;
   d. Secure all assorted gear ashore or in hopper barges;
   e. Arrange for tug support before, during, and after hurricane;
   f. Nesting is NOT allowed at exposed piers;

2. Tank Barges. (Serious concern for pollution).

   a. Secure at pier face;
   b. Outboard anchors out at short stay;
   c. Ballast (rather than empty or partially filled);
   d. Ballasting issue creates another concern regarding what is on the bottom at the berth (i.e. mud or scrap metal) and potential holing;
   e. Secure all assorted gear ashore;
   f. Arrange for tug support before, during, and after hurricane;
   g. Nesting is NOT allowed at exposed piers;

3. Dredges.

    a. Spud down, if possible;
    b. Outboard anchors out at short stay;
    c. Secure by spudding down or nesting between two secured vessels;
    d. Secure all assorted gear ashore;
    e. Arrange for tug support before, during, after hurricane;
    f. Nesting is NOT allowed at exposed piers;

C. Preparedness Levels. (See Appendix 5 to Annex C for PHWAG information)

Port Hurricane Conditions: Port Hurricane Conditions are set by the COTP. Port Hurricane Conditions will change as the threat of severe weather increases, or as storms approach the area.

Port Hurricane Condition	**When Set**
Condition 5	General. 1 Dec – 31 May
Condition 4	Hurricane seasonal alert. 1 June – 30 Nov (return to this condition after passage of storm during season)
Condition Whiskey	Sustained Gale Force winds from a hurricane force storm are **predicted** within 72 hours
Condition X-ray	Sustained Gale Force winds from a hurricane force storm are **predicted** within 48 hours
Condition Yankee	Sustained Gale Force winds from a hurricane force storm are **predicted** within 24 hours
Condition Zulu	Sustained Gale Force winds from a hurricane force storm are **predicted** within 12 hours
Port Hurricane Condition	**Port status**
Condition 5	Port status: open
Condition 4	Port status: open
Condition Whiskey	Port status: open
Condition X-ray	Port status: open
Condition Yankee	Port status: restricted, vessel/facility control measures in effect
Condition Zulu	Port status: closed to all vessel traffic and waterside ops except for activities approved by the COTP
Condition 4	Port status: re-opened by COTP following storm passage and satisfactory assessment

1. Readiness Responsibilities. The actions and conditions of readiness are listed below for the port and maritime communities. (Check-Off Sheets in Appendix 2 to Annex X)

    a. Port Hurricane Condition Five. (Stand down condition set from 1 December to 31 May)

        (1) Individual company and agency heavy weather plans should be reviewed internally and updated prior to 1 June of each year.

(2) Update and publish policy letters on hurricane readiness.

(3) The PHWAG will hold a port planning meeting to discuss the effectiveness of the port heavy weather plans during the previous season, evaluate and discuss heavy weather preparation and response, review the hurricane preparedness of the port, and examine the port areas at risk. This meeting should normally take place during the latter part of January each year. In addition, the Committee shall:

(a) Make available The Tampa Bay Port Heavy Weather Plan and applicable annexes of the Heavy Weather Plan to port authorities, pilots and marine industry.

(b) Conduct heavy weather training or exercises involving Coast Guard personnel and port interests.

(4) The PHWAG may include:
pilots/docking masters, port authorities, facility operators, vessel agents/owners/operators, shipping companies, Customs and Border Patrol, as well as other federal state and local emergency management agencies and other Coast Guard assets.

b. Port Hurricane Condition Four (Seasonal Alert - 1 June to 31 November).

(1) COTP Tampa will ensure the maritime and port communities are notified via PCIB (Port Community Information Bulletin) that seasonal Heavy Weather Condition Four Alert has been set.

(2) Individual company and agency heavy weather plans should be reviewed and revised as necessary. Implementation of these plans should commence immediately.

(3) At the beginning of heavy weather season when Heavy Weather Condition Four is set, Marine Safety Office Tampa will:

(a) Coordinate through the Florida Fish and Wildlife Conservation Commission and Coast Guard Auxiliary the dissemination of information to the boating public via public bulletins/notices at local marinas and port facilities. These bulletins/notices contain information on the Coast Guard's port user expectations and points of contact information for heavy weather preparation and response.

(b) Utilize the CG Auxiliary to educate and assist recreational boaters in obtaining additional information on safe refuge and heavy weather preparation.

(c) MSO Tampa will pre-approve heavy weather plans for vessels in lay up status.

c. Port Hurricane Condition Whiskey (72 Hour Alert). Sustained Gale Force winds from a hurricane force storm are **predicted** within 72 hours.

(1) COTP personnel will conduct preliminary surveys of all ports and marinas to determine the present state of readiness and to alleviate potential problems.

(2) Masters, owners, operators, terminals, and agents of all oceangoing commercial vessels and Coast Guard regulated barges shall notify the COTP as soon as possible of intentions to depart or remain in port. The COTP will advise all marine interests of the 72-hour alert by Broadcast Notice to Mariners and fax. Vessels desiring to remain in port must submit a written request to the COTP Tampa along with a mooring plan within 12 hours following the Heavy Weather 72-hour alert issued by the weather service or COTP. The request may be faxed to MSO Tampa at (813) 228-2399. Upon receipt of written request and approval, the COTP will issue a letter of approval to the vessel's owner and agent. This includes vessels in lay up status. During commercial vessel loading operations, terminals should make allowances for requirements of vessels required to depart the port.

(3) Any oceangoing commercial vessel and Coast Guard regulated barges greater than 500 gross tons permitted to remain in port should have the outboard anchor at short stay, adequate mooring lines out, have a navigation watch set and maintain a listening watch on Channel 16 VHF-FM.

(4) Anticipate the COTP to restrict inbound traffic prior to setting Port Hurricane Condition Yankee.

(5) Measures for attaining maximum stability for all vessels should be considered. Vessels required to depart port shall ensure cargo operations are secured to meet sail times. The COTP will consult with shipping and cargo handling interests regarding the time of phase down and termination of cargo handling operations for those vessels remaining in port.

(6) The COTP will ask the PHWAG and industry representatives to provide a report with the following information regarding: vessel location, cargo, destination and estimated time of departure or arrival.

(7) PHWAG will review all requests and mooring plans of vessels and provide recommendations to COTP. The PHWAG shall consist of the following members: U. S. Coast Guard representative, Tampa, Manatee, and St. Petersburg Port Authorities, Tampa Bay Pilots Association representative, and a representative from Seabulk Towing and Marine Towing of Tampa Bay.

(8) An inventory of necessary ship's stores should be made to determine that adequate quantities of such items as wire rope, mooring lines, fenders, etc., are on hand to double-up and secure. Supply sources will "dry up" quickly when the alert is sounded.

(9) COTP will issue letters to owner/agents approved to remain in port

(10) Owner/operators should be aware of the liability for impairment of port operations due to negligent storm preparation.

(11) The COTP Tampa will establish liaison with Red Cross, National Weather Service, and U.S. Army Corps of Engineers (for pre-hurricane dredge information and post-hurricane channel clearing operations).

(12) Local emergency management and law enforcement organizations should schedule meetings to discuss at a minimum, points of contact, radio net control frequencies, personnel shelters, and vehicle and vessel storage area locations.

(13) Port status: open.

e. Port Hurricane Condition X-Ray (48 Hour Warning). The readiness condition in which threatening gale force winds are **predicted** within 48 hours in the COTP zone.

(1) Ensure that all actions required by Port Hurricane Condition Whiskey have been completed.

(2) The COTP will ensure the affected marine industry is notified that Port Hurricane Condition X-Ray has been set by issuing a Broadcast Notice to Mariners (BNTM). (See Annex K for a sample BNTM). The COTP may consider restricting certain vessel operations.

(3) Commence removing/securing missile hazards and hazardous cargoes at open wharves.

(4) Oceangoing commercial vessels and Coast Guard regulated barges greater than 500 gross tons not approved to remain in port must be prepared for an order which will require them depart the port beyond the Tampa Bay sea buoy by the setting of Port Hurricane Condition Zulu. Vessels transiting within the port, departing the port or entering the port should arrange for sufficient tug assistance well in advance.

(5) All oceangoing commercial vessels and Coast Guard regulated barges greater than 500 gross tons are prohibited from anchoring within the territorial waters under the cognizance of MSO Tampa without prior approval from the COTP.

(6) The COTP Facilities/Vessels Evaluation Teams and cognizant Port Authorities will continue surveying the port areas to determine expected arrivals and departures, locate and describe potential problem areas on waterfront facilities and provide assistance to waterfront facilities requesting information in preparing for the pending storm. The PHWAG will provide vessel evacuation/cargo operations status to COTP.

(7) Plan for the complete clearing of all missile and debris hazards from wharves. Consideration should be given to the banding of drums on pallets no more than two tiers high or laid horizontally with secure dunnage. Containers should be stacked no more than one high.

(8) Wharf operators must notify the COTP of any dangerous cargo, which they intend to leave in open areas by reason of insufficient shed space or stowage regulation.

(9) Barge facilities are encouraged to reduce their fleets as much as possible.

(10) Facilities should recognize that loaded tank vessels will normally fare better than light vessels in hurricane force winds. Discharge operations will therefore normally be terminated immediately.

(11) Ship/tug services should consider maintaining at least one tug each on standby for call out assistance.

(a) Ship and tug companies should review or develop hurricane recovery plans, which provide for earliest possible resumption of emergency services after the hurricane has passed.

(b) Whenever possible, towboats should be available for recovery of drifting barges after passage of the storm.

(12) Individual companies should review and prepare to implement their post hurricane Facility Response Plans and Vessel Response Plans.

(13) Companies having vessels (including towboats) with an arrival time of less than 48 hours prior to the time gale force winds are predicted, may be denied entry and should anticipate needing to arrange to seek shelter elsewhere.

(14) The COTP will monitor and coordinate with Coast Guard Group St. Petersburg, Port Authorities, Pilots, Florida Marine Patrol and Coast Guard Auxiliary the movement of small craft to safe harbors, commercial vessels and Coast Guard regulated barges to sea.

(15) Port status: open.

f. Port Hurricane Condition Yankee (24 Hour Warning). The readiness condition in which threatening gale force winds are **predicted** within 24 hours in the COTP zone, and to be set as soon as possible post hurricane.

(1) Ensure that all actions required by Port Hurricane Condition X Ray have been completed.

(2) A BNTM will be issued upon setting Port Hurricane Condition Yankee and announcing impending vessel control measures and special conditions, as they are deemed necessary by the COTP. (See Annex K for sample message).

(3) Oceangoing commercial vessels and Coast Guard regulated barges greater than 500 gross tons not approved to remain in port must depart the port beyond the Tampa Bay sea buoy by the setting of Port Hurricane Condition Zulu. Vessels transiting within the port, departing the port or entering the port should arrange for sufficient tug assistance well in advance.

(4) The COTP will continue securing the entire port area. This could include requiring cessation of waterfront facility operations and closure of all or part of the rivers and the Intra-coastal Waterway in conjunction with bridge closures that may be implemented to facilitate evacuation of coastal areas and barrier islands.

(5) Anticipate securing cargo-handling operations prior to setting Condition Zulu. Product storage tanks should already be loaded to optimum level for withstanding storms, winds and flooding.

(6) Ship personnel of vessels allowed to remain in port should consider the adequacy of vessel moorings and double up or change mooring line arrangements where indicated.

(7) The MSO Tampa will contact tugs and towboat companies and obtain a list of tugs available for assistance during post hurricane operations.

(8) Certain facilities may desire vessels to move to an alternate berth during this period. No moves will be permitted by the COTP, unless the move can be done safely and an adequate lay berth is available. Movement will be coordinated with the cognizant Port Authority, Pilots and facility owners.

(9) COTP Assessment and Response Teams, Port Authorities and waterfront facility representatives complete a joint inspection of wharf areas. Any safety hazards discovered must be corrected ASAP.

(a) Coast Guard vessels and vehicles will patrol the port area to ensure that facilities and watercraft are secured and ready for hurricane force winds.

(b) Final inspections of vessels approved to remain at their berth will be conducted to ensure proper mooring and heavy weather preparations have been made.

(14) PHWAG will provide an update on vessel/cargo operations status to COTP.

(15) **Port Status: restricted, vessel/facility control measures in effect.**

g. Port Hurricane Condition Zulu (12 Hour Watch). The readiness condition in which threatening gale force winds are **predicted** within 12 hours in the COTP zone.

(1) Ensure that all actions required by Port Hurricane Condition Yankee have been completed.

(2) A BNTM will be issued to announce the setting of Port Hurricane Condition Zulu, port closures and special conditions, as they are deemed necessary by the COTP. (See Annex K for sample message)

(3) The COTP will secure the entire port area. This includes closure of all or part of rivers, the ICW, and/or the Ports of Tampa, St. Petersburg and Manatee in accordance with the authority granted in 33 CFR Part 6.

(4) The COTP, cognizant port authority personnel and waterfront facility representatives conduct final checks of port facilities. COTP suspends final port cargo operations for vessels remaining in port.

(5) The COTP will evacuate the MSO on Davis Island when storm surge is predicted to impact the area. In an emergency, the MSO Liaison Officer to the Hillsborough County Emergency Operations Center (EOC) can be contacted at (813) 272-6900 or via marine VHF-FM Channel 16. (See Annex K for additional emergency telephone numbers)

(6) Port status: closed to all vessel traffic and waterside operations except for activities approved by the COTP.

a. "Waterside" operations does not normally include transfers to rail or truck from cargo racks or other vehicle traffic on or near the port area. Should control of activities over and above waterside operations become necessary, the COTP will specifically articulate those restrictions.

h. Storm Passage. Port Hurricane Condition Four.

(1) **COTP will arrange and conduct shoreside and waterside security patrols of port facilities to ensure security arrangements are in place at regulated facilities and vessels.**

(2) COTP to conduct port survey of aids to navigation, pollution, facilities, berths and channel passage.

(3) PHWAG to meet to assess port damage, develop list of ports pending outbound and inbound traffic. PHWAG will advise COTP of port damage, vessel traffic and other safety concerns.

(4) Port status: re-opened by COTP following storm passage and satisfactory assessment.

D. Criteria for Bridge Closures.

1. Bridge Policy. The Bridge Administration Program is one of the many roles of the Coast Guard. The Program addresses the needs of land and marine transportation; providing for ever increasing land traffic while protecting maritime traffic from unreasonable obstruction. During heavy weather conditions, especially hurricanes, vessels need to seek shelter, either at sea or in port. At the same time, low-lying areas need to be evacuated. When winds exceed 35 knots (39 miles per hour) bridges need to remain closed to protect them from being wracked. In the extreme winds of a hurricane, the bridges need to be locked down to protect them from damage.

The Coast Guard does not direct a bridge to close, but rather allows it to not open. The regulations, specifically within 33 CFR 117.33 indicates that "drawbridges need not open for the passage of vessels during periods of natural disasters …unless…directed to do so by the District Commander." The process of locking down a bridge takes time, as does unlocking the bridge. Starting the process at the arrival of gale force winds (35 knots) is not reasonable.

In general, it has been accepted that bridges need not open, and may start the lock-down procedure eight (8) hours before the predicted arrival of gale force winds. This guideline may be too restrictive in some cases, and not restrictive enough in others. The Coast Guard Captain of the Port (COTP) may have constructively closed the port, and lock-down could commence earlier on one or more bridges. Or, there may be one or more vessels in port that need to get to sea, and that transit may be closer to the arrival of gale force winds than eight hours. The COTP, with local situation awareness, should be making those decisions. Further, these decisions also need to align with port inter-modal issues and the COTP is in the best position to address marine transportation system needs.

Maritime interests need to know when bridges will be closed so they may properly plan. It is imperative, therefore, that any planned closures be widely advertised well in advance of any heavy weather. Closures in advance of these advertised times must be carefully considered.

Bridges are in one of several operational conditions:

a. Operational. The bridge is operating normally, opening on demand or in accordance with established regulations.

b. Special operations. The bridge is opening under special heavy weather regulations.

c. Closed. The bridge is allowed to not open for vessel traffic, but could do so if directed by the District Commander.

d. Locked down. The bridge is allowed to not open for vessel traffic, and is constructively not able to open for vessel traffic.

COTP hurricane planning deploys Coast Guard personnel as an operational conduit within the county or local Emergency Operations Centers (EOC) in those coastal counties containing commercial ports that may be impacted by the impending hurricane or severe weather. Upon activiation ot the EOC for hurricane preparations, the COTP shall coordinate with the EOC in planning the order in which bridges will be locked down, and the criteria for delays. Within the general guidelines that bridges are allowed to close for lockdown eight hours in advance of the arrival of gale force winds or other pre-established time-frame, the COTP shall monitor the operational status of bridges and through the county or local EOC. The COTP shall keep the D7 IMT informed of bridge status via required SITREPS or other means. Only bridges that are exceptions to the eight hours guidelines need be reported.

2. Criteria. Drawbridge operations in a given county may be suspended by CCGD7 (oan) when requested by the county's Director of Emergency Management. This will usually coincide with the setting of Condition Two. The Florida Department of Transportation (FDOT), as reflected in their Bridge Tender Manual is in agreement with the Commander, Seventh Coast Guard District to close drawbridges at **wind speeds of 34 knots or 39 mph or greater** to prevent permanent damage to the drawbridges. This operating schedule must be advertised through the local media well before the bridge closure. If so ordered, this should be reported to the Coast Guard Group Command at St. Petersburg (727) 824-7506 at least 6 hours before the changes in operating schedules and lockdowns to allow notification to mariners through the Coast Guard Broadcast Notice to Mariners. (BNM). Notification must also include Coast Guard District (d7) OPS CEN at (305) 451-6800. (POC: FDOT Structure Design Engineer (850) 414-4255 and State Safety Engineer (850) 488-3546). More FDOT phone information can be found at http://411.myflorida.com/411/www_tel.public_411. The Waterways Management Office at MSO Tampa will maintain a listing of all bridges in the AOR with contact phone numbers and river miles.

a. Evacuations.

(1) If the Director of Emergency Management desires to mandate closure of drawbridges for evacuation of land traffic before the arrival of a hurricane, the EOC shall obtain authorization from the Commander, Seventh Coast Guard District. 33 CFR 117.33 allows drawbridges to remain closed during a natural disaster unless the CCGD7 directs otherwise.

(2) The FDOT general policy is to evacuate all Bridge Tender personnel eight hours before landfall of gale force winds. FDOT requests the earliest possible notice to the appropriate county Emergency Operations Center (FDOT Representative) when the COTP closes any of the Ports within the AOR.

b. Bridge Operating Waivers.

(1) **Pinellas County.** The Pinellas county drawbridges waiver allows for the opening of the Bayway "E", Treasure Island, Park Boulevard, Bellaire, Clearwater Memorial and Dunedin Drawbridges once an hour on the hour commencing 16 hours prior to the projected arrival of gale force winds (34 knots/39 mph). During this same period, Bayway "C", Corey, Welch and Indian Rocks Bridges need open only once per hour on the half-hour. The Johns Pass Bridge will remain in the open to navigation position during this period. At 8 hours before projected arrival of gale force winds, the drawbridges will begin locking down starting with the highest span first and working down to the lowest span last. The notification requirements listed above remain in effect during this period.

(2) **Lee County**. Upon issuance of an evacuation order for the barrier islands which would occur a maximum of 27 hours before the projected arrival of gale force winds, the Sanibel Causeway, Big Carlos Pass and Matlacha Pass drawbridges will only open on the hour. The draws on the Okeechobee Waterway would continue to operate on normal schedules during this period. At four hours before the projected arrival of gale force winds the bridge owners can begin locking down in order of the highest clearance first. Accordingly, the railroad span at Tice should be the last bridge to be locked down. The notification requirements listed above remain in effect during this period.

(3) **Charlotte County**. Upon issuance of an evacuation order for the barrier islands which would occur a maximum of 24 hours before the projected arrival of gale force winds, the Boca Grande, and Tom Adams drawbridges will only open once per hour. At 4 hours before the projected arrival of gale force winds the drawbridges will begin locking down. The notification requirements listed above remain in effect during this period.

c. Bridge List. See Tab H to this Appendix.

(1) Coast Guard Group St. Petersburg maintains a current list of bridge names and phone numbers throughout COTP Tampa Zone. (See Waterways Management Office for a list of Bridges)

(2) Status of bridges can also be checked by contacting the local Emergency Operations Center (EOC). A Florida DOT representative is assigned to the EOC during the passing of a hurricane.

E. Vessel Pilotage Constraints.

a. Harbor Characteristics. The Port of Tampa lies at the northern end of Hillsborough Bay, about 41 miles from the entrance of Tampa Bay. The main ship channel passes between Egmont Key and Mullet Key into a dredged cut that enters Tampa Bay. The ship channel is inundated with numerous sharp turns and is narrow with widths ranging from 400 to 600 feet. Hard Bottom and

water depths in Tampa Bay of less than 15 feet immediately outside portions of the Channel does not afford much error when transiting.

b. Safe Havens/Anchorages. Tampa Bay offers little shelter from heavy weather due to low terrain. As a result, there are no designated safe havens or hurricane anchorages within the COTP Tampa Zone. Without this additional mooring for vessels, the COTP is faced with a larger number of vessels that must depart the port in a short period of time. The COTP will make a determination to close the Port to inbound traffic when deemed necessary based on the number and size of vessels required to depart the port. However, anticipate closure of the Port to inbound traffic upon setting Heavy Weather 72- Hour Alert.

F. Port Agency Responsibilities.

a. Authorities/Port Agencies. Authorities/Port Agencies are responsible for the security of piers, warehouses, and roadways within their jurisdiction. The Port Authority will direct vessels to adequate berths for traffic inbound and outbound throughout course of passing heavy weather. At least twelve (12) hours before the predicted arrival of gale force winds, port areas should be secured. Particular attention shall be given to dangerous cargoes within the port. The COTP shall be notified when the port is secured and of any problems which exist.

b. Pilots. The Pilots should keep in close contact with the COTP to coordinate vessel movements and advise him of any unusual or dangerous situations. The Pilots should inform the Port Authority when pilot services are suspended, when services are predicted to resume, and upon resumption of services.

c. Agents. Ship agents are responsible for informing vessel owners and operators of the COTP requirement for ships in port during heavy weather. Shipping agents shall ensure the most expeditious means is used putting vessels to sea, including suspending cargo operations etc. Vessel movement will be coordinated with the COTP, Port Authorities and Tampa Bay Pilots.

d. Vessel Master. The vessel master will take prompt effective action to ensure the safety of his ship and crew. Commercial oceangoing vessels or CG regulated oceangoing barges over 500 gross tons may be required to depart the port beyond the Tampa bay sea buoy prior to the setting of heavy weather condition two. Vessel masters shall coordinate the movement with the vessel agent and pilots. If Circumstances dictate staying in port, the master shall submit a written request to the COTP along with mooring plan 12 hours after the issuance of the 72 hour alert by the National Weather Service or COTP.

e. Waterfront Facility (Person in Charge). Prior to the start of hurricane season, the person in charge of a waterfront facility should review and update their facility heavy weather plan and identify berths that are adequate for vessels to weather a hurricane. In coordination with shipping agents and Port Authorities, adequate mooring arrangements shall be established for vessels remaining in port during heavy weather.

f. Ship and Tug Companies. Tug companies should review their heavy weather plans to ensure they adequately address tug escorts during port evacuation before heavy weather. In addition, individual companies should review and prepare to implement their post hurricane pollution contingency and resumption of service plans. All tug and towboat companies should provide a list of tugs available for assistance prior to and after the hurricane winds pass the area.

G. Response.

1. General. One of the largest threats facing any port in the aftermath of a hurricane is an oil or hazardous material discharge. The potential for a major oil spill or hazardous materials release must be viewed as significant. It is a threat that port and maritime organizations must learn to minimize. Response efforts involve pre-planning and preparation during the approach and aftermath of heavy weather.

2. Products.

   a. Tampa is one of the most active ports by tonnage in the U.S. Each year over 1.5 billion gallons of oil, 75% of which is gasoline, and over 12 million tons of hazardous material, 85% of which is fertilizer and liquid sulfur, comes into the port area.

   b. Storage capacity for these products within:

      (1) Tampa area:

OIL PRODUCTS	(M gals)
# 6	118
# 2	58
Gasoline	176
Jet Fuel	47
LPG (Propane)	140 K
HAZARDOUS MATERIALS	**(K tons)**
Liquid Sulfur	235
Anhydrous Ammonia (NH3)	137
Phosphoric Acid	124
Sulfuric Acid	34
Sodium Hydroxide	19

      (2) Ft. Myers Area:

OIL PRODUCTS	(M gals)
# 2 & #6	52

3. Minimize/Removal of Threat .

   a. During the off-season, waterfront facilities and vessel operators need to review and revise their pollution response plans.

   b. The COTP will hold a meeting with the Port Community to address concerns and response preparations for sources of potential pollution discharge. Items identified by the COTP as reducing the risk of a release include:

      (1) All facilities should inventory pollution response equipment and re-supply as needed.

(2) Berthing needs to be identified for ships remaining in port that are adequate to withstand heavy weather.

(3) Facilities shall research the disposition of all waste storm water. (Facility containment)

(4) Shore side bulk liquid storage facilities should consider the following:

(a) Keep inventories high during hurricane season.

(b) Consider tank height above sea level plus liquid height. For a Class 1 storm, 74-95 mph, plan for 10 feet of storm surge plus the tide plus wave height at the head of Tampa Bay. St. Petersburg and Port Manatee would receive 4 feet plus tide and waves. A Class 5 storm, 150-mph and up, will push 30 feet of water to the head of the bay and 13 feet at St. Petersburg and Port Manatee, plus tide and waves.

(c) Plan on earth berms being reduced or destroyed by wave action.

(d) Do not plan to use city water to ballast tanks. There may not be enough time or water.

(e) Prepare unused tanks to weather a storm long before a hurricane hit is predicted.

(f) Disconnect pipes and blank valves at the tanks. If the tank shifts slightly a valve may be torn from the tank causing a major spill. Berms may be damaged or full of water.

(g) Do not count on receiving product for two days (48 hours) prior to a predicted hurricane hit. The COTP will be controlling shipping to protect ships and the port. Priority will be given to vessels exiting the harbor to evade the storm.

(5) Proposed safe storage and handling of containerized or packaged HAZMAT and oil products needs to be established at facilities.

(6) Oil and HAZMAT response organizations identified in facility and vessel response plans should be placed in standby for approaching storm.

(7) The COTP will request the National Strike Force to be on standby.

(8) The transfer of oil or hazardous material will normally be required to be terminated 24 hours prior to a storm. Oil transfer and hazardous chemical terminals should ensure that all loading arms and transfer hoses are drained of all products, flanged off and secured to the dock.

(9) Tank vessels remaining in port should ballast down.

(a) Facilities should recognize that loaded tank vessels will normally fare better than light vessels in hurricane force winds. Discharge operations will therefore normally, be terminated immediately.

(b) Adequate mooring arrangements to withstand heavy weather should be established.

(10) Identifying and eliminating, as many risks possible and keeping people focused on the goal of hurricane preparedness will do much to avoid large releases of oil or hazardous material and will improve recovery time in the event a discharge does occur. Contact the NOAA Scientific Support Coordinator to discuss the best departure route for the vessel to limit environmental damage.

H. Coordination and Communication with Other Government Agencies .

1. Coordination .

a. The United States Coast Guard Marine Safety Office Tampa recognizes the responsibility of government authorities for the protection of the life and property, issuing warnings, rescue and evacuation.

b. During a domestic emergency, the United States Coast Guard will assist civil authorities in disaster relief when local and state authorities request Coast Guard assistance. The Coast Guard will provide aid while minimizing practical deviations from the Coast Guards primary responsibilities.

c. In order to provide assistance in the event of heavy weather, Marine Safety Office Tampa has established a designated Emergency Operations Center Liaison Officer. This Coast Guard Liaison Officer is assigned to the Hillsborough County Emergency Operation Center (EOC) on behalf of the COTP. The Coast Guard Liaison has developed cooperative disaster preparedness assistance measures to be implemented in the event a hurricane devastates the port and marine environment. The Coast Guard EOC Liaison assists other federal, state and local authorities and reports back to the COTP in coordinating the response to a marine disaster. (See Annex K for emergency telephone numbers.)

2. Communications .

a. The response effort is coordinated in house at the Hillsborough County Emergency Operation Center. Federal, state, and local emergency managers and agency representatives communicate directly using the latest state of the art communication capabilities. The "911" Emergency Phone System Operators are located in the EOC which includes back up telephone systems and telephone operators. This capability enables the Coast Guard Liaison to communicate with various federal, state, and local agency representatives at the EOC and communicate with the MSO/COTP directly by telephone. (See Annex K for emergency telephone numbers).